MITSUBISHI ELECTRIC

Changes for the Better

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

No. OC302

TECHNICAL & SERVICE MANUAL

Series SLZ Ceiling Cassettes R410A

Indoor unit
[Model names]

SLZ-A09AR

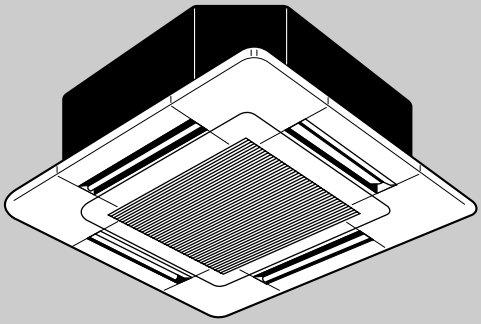
SLZ-A12AR

SLZ-A18AR

[Service Ref.]

SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH

•This manual does not cover outdoor units. When servicing them, please refer to the service manual No.OC304 and this manual in a set.



INDOOR UNIT

REMOTE CONTROLLER

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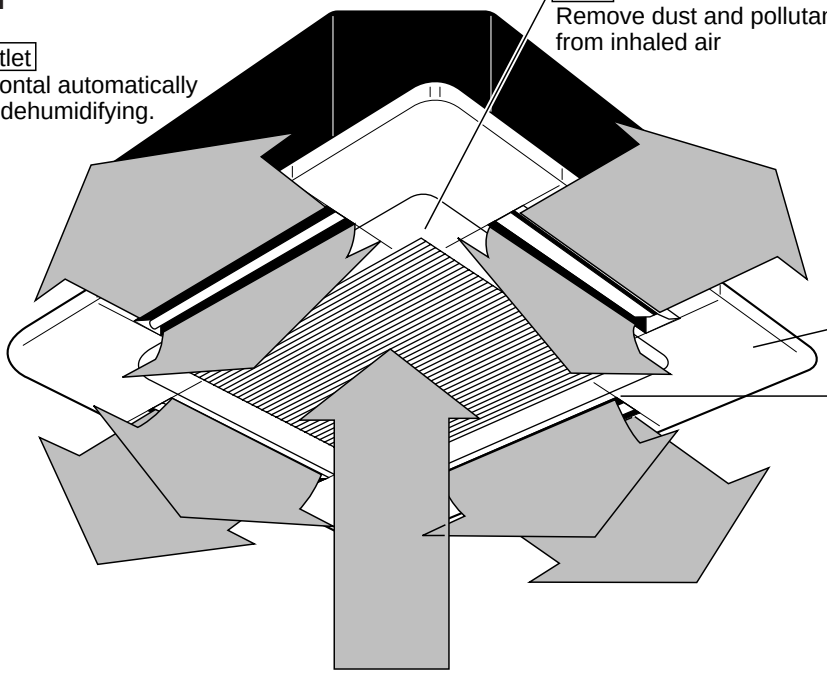
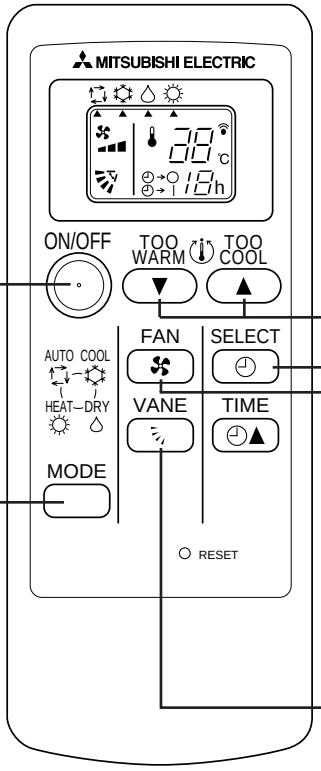
Mr.SLIM™

1 PART NAMES AND FUNCTIONS

Indoor Unit
SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH


Filter
Remove dust and pollutants from inhaled air
Horizontal Air Outlet
Sets airflow horizontal automatically during cooling or dehumidifying.
Grille
Auto Air Swing Vane
Disperses airflow up and down and adjusts the angle of airflow direction.
Air Intake
Inhales air from room.

Remote controller



ON / OFF button
Pushing button starts operation. Pushing again stops operation.

MODE SELECT button
This button is used to change between auto, cooling, heating and drying operation modes. (SLZ)

SET TEMPERATURE button
SET TEMPERATURE button sets and any desired room temperature.

TIMER SELECT button
Used for selecting timed starting or stopping.

FAN SPEED button
This button is used to set fan speed to low, medium or high.

VANE CONTROL button
Used to change the airflow direction.

Attention :

● Avoid operation of buttons with fingernails or other sharp objects. Sharp objects may scratch remote controller.

2 SPECIFICATIONS

Indoor model				SLZ-A09AR.TH		SLZ-A12AR.TH		SLZ-A18AR.TH	
Function				Cooling	Heating	Cooling	Heating	Cooling	Heating
Power supply				Single phase 230V, 50Hz		Single phase 230V, 50Hz		Single phase 230V, 50Hz	
Capacity	Air flow (High/Med./Low)		m³ /h	600/540/480		660/600/540		660/600/540	
Electrical data	Power outlet		A	10		10		20	
	Running current ✻1		A	0.18		0.23		0.24	
	Power input Rated frequency		W	40		52		53	
	Dew prevention heater		(kW)	0.014		0.014		0.014	
	Power factor ✻1		%	91	92	94	95	97	97
	Fan motor current ✻1		A	0.18		0.23		0.24	
Fan motor	Model			PK6V15-LA		PK6V20-LE		PK6V20-LF	
	Winding resistance (at20℃)		Ω	WHT-BLK : 407 BLK-BLU : 55 BLU-YLW : 31 YLW-BRN : 30 BRN-RED : 165		WHT-BLK : 384 BLK-BLU : 111 BLU-YLW : 49 YLW-BRN : 46 BRN-RED : 311		WHT-BLK : 317 BLK-BLU : 88 BLU-YLW : 52 YLW-BRN : 45 BRN-RED : 301	
Dimensions		Width	mm(in)	UNIT : 570(22-7/16) PANEL : 650(25-9/16)					
		Height	mm(in)	UNIT : 208(8-3/16) PANEL : 20(13/16)					
		Depth	mm(in)	UNIT : 570(22-7/16) PANEL : 650(25-9/16)					
Weight			kg	UNIT : 16.5 PANEL : 3					
Special remarks	Air direction			4		4		4	
	Sound level(High/Med./Low)		dB(A)	38/35/32		39/37/34		40/38/35	
	Fan speed(High/Med./Low)		rpm	650/580/530		690/630/570		710/650/590	
	Fan speed regulator			3		3		3	
	Thermistor RT11(at25℃)		kΩ	10		10		10	
	Thermistor RT12(at25℃)		kΩ	10		10		10	
	Thermistor RT13(at25℃)		kΩ	10		10		10	
Remote controller model				MPPC		MPPC		MPPC	

NOTE : Test conditions are based on ISO 5151
Cooling : Indoor D.B. 27℃ W.B. 19℃
Outdoor D.B. 35℃ W.B. 24℃
Heating : Indoor D.B. 20℃ W.B. 15℃
Outdoor D.B. 7℃ W.B. 6℃
Refrigerant piping length (one way): 5m
✻1 Measured under rated operating frequency.

Specifications and rating conditions of main electric parts

INDOOR UNIT

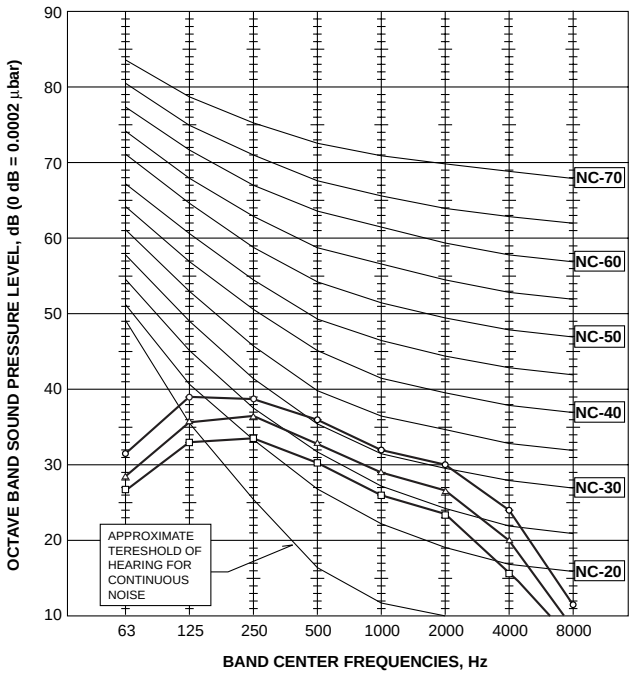
Item \ Model	SLZ-A09AR.TH SLZ-A12AR.TH SLZ-A18AR.TH
Indoor fan capacitor (C1)	1.5μF 440V
Fuse (F11)	250V 3.15A
Vane motor (MV)	MSBPC20 12V 250Ω
Terminal block (TB)	POWER SUPPLY : 3P TO OUTDOOR UNIT : 4P
Contactor (52C)	G4A-1A-E-PS 12V DC
Indoor fan motor thermal fuse	145℃±2℃
Cord Heater (H2)	240V AC 15W

NOISE CRITERION CURVES

SLZ-A09AR.TH

<50Hz>

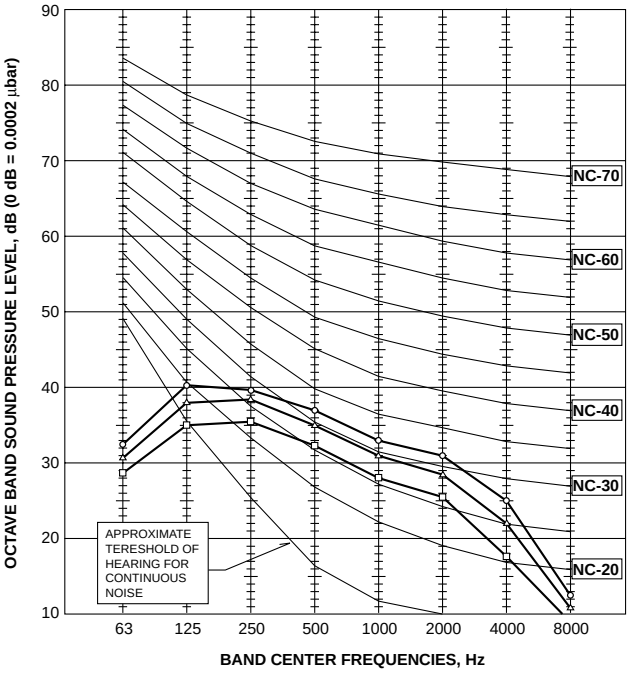
NOTCH	SPL(dB)	LINE
Hi	38	○—○
Me	35	△—△
Lo	32	□—□



SLZ-A12AR.TH

<50Hz>

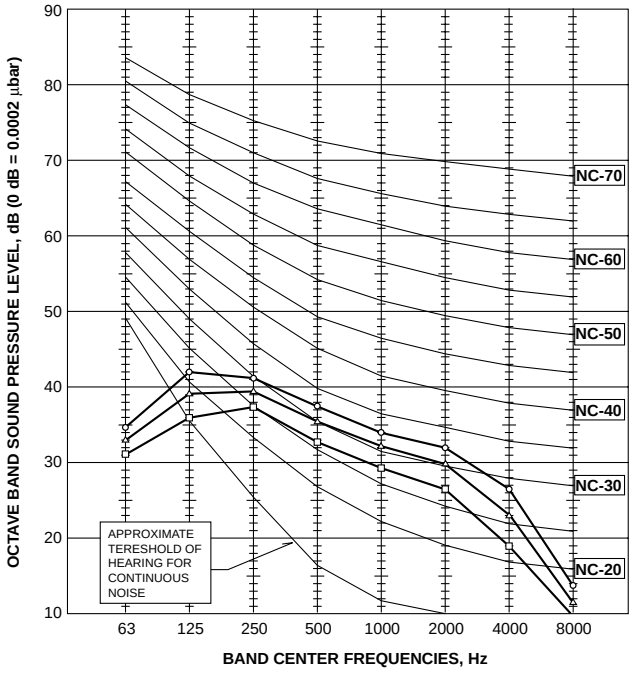
NOTCH	SPL(dB)	LINE
Hi	39	○—○
Me	37	△—△
Lo	34	□—□

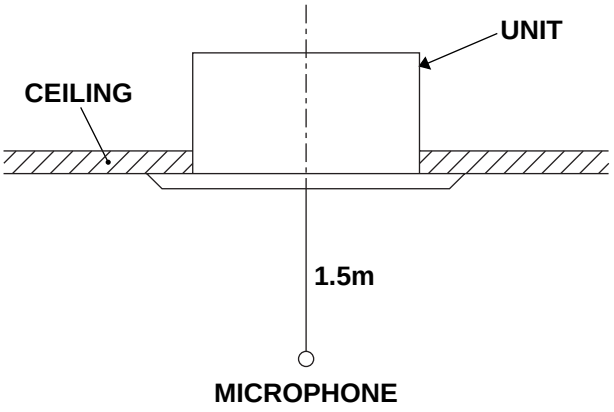


SLZ-A18AR.TH

<50Hz>

NOTCH	SPL(dB)	LINE
Hi	40	○—○
Me	38	△—△
Lo	35	□—□





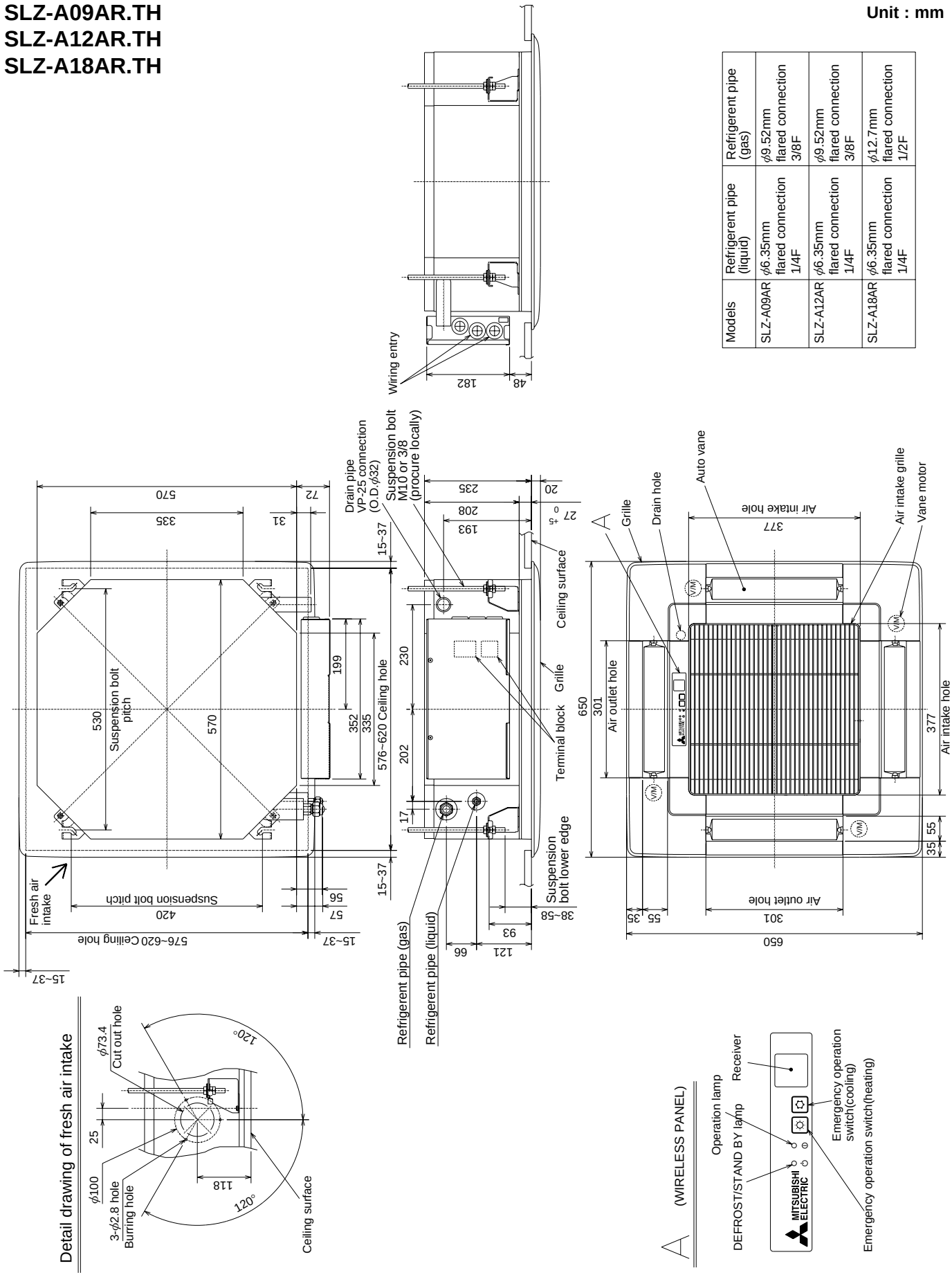
NOTE: The sound level is measured in an anechoic room where echoes are few, when compressor stops. The sound may be bigger than displayed level under actual installation condition by surrounding echoes. The sound level can be higher by about 2 dB than the displayed level during cooling and heating operation.

3 OUTLINES AND DIMENSIONS

SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH

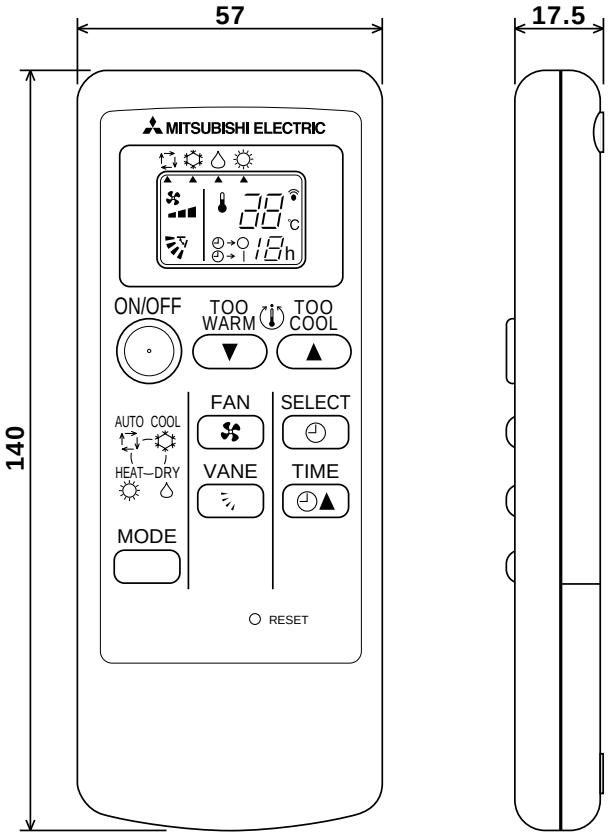
Unit : mm

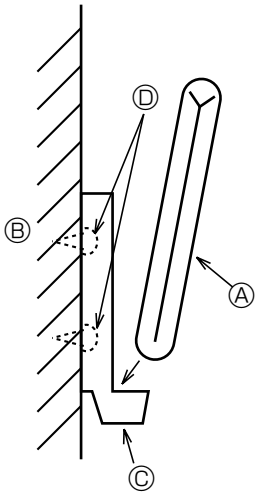
Models	Refrigerent pipe (liquid)	Refrigerent pipe (gas)
SLZ-A09AR	ϕ6.35mm flared connection 1/4F	ϕ9.52mm flared connection 3/8F
SLZ-A12AR	ϕ6.35mm flared connection 1/4F	ϕ9.52mm flared connection 3/8F
SLZ-A18AR	ϕ6.35mm flared connection 1/4F	ϕ12.7mm flared connection 1/2F



REMOTE CONTROLLER

Unit : mm





Installation area

- Area in which the remote controller is not exposed direct sunshine.
- Area in which there is no nearby heating source.
- Area in which the remote controller is not exposed to cold (or hot) winds.
- Area in which the remote controller can be operated easily
- Area in which the remote controller is beyond the reach of children.

Installation method

① Attach the remote controller holder to the desired location using two tapping screws.

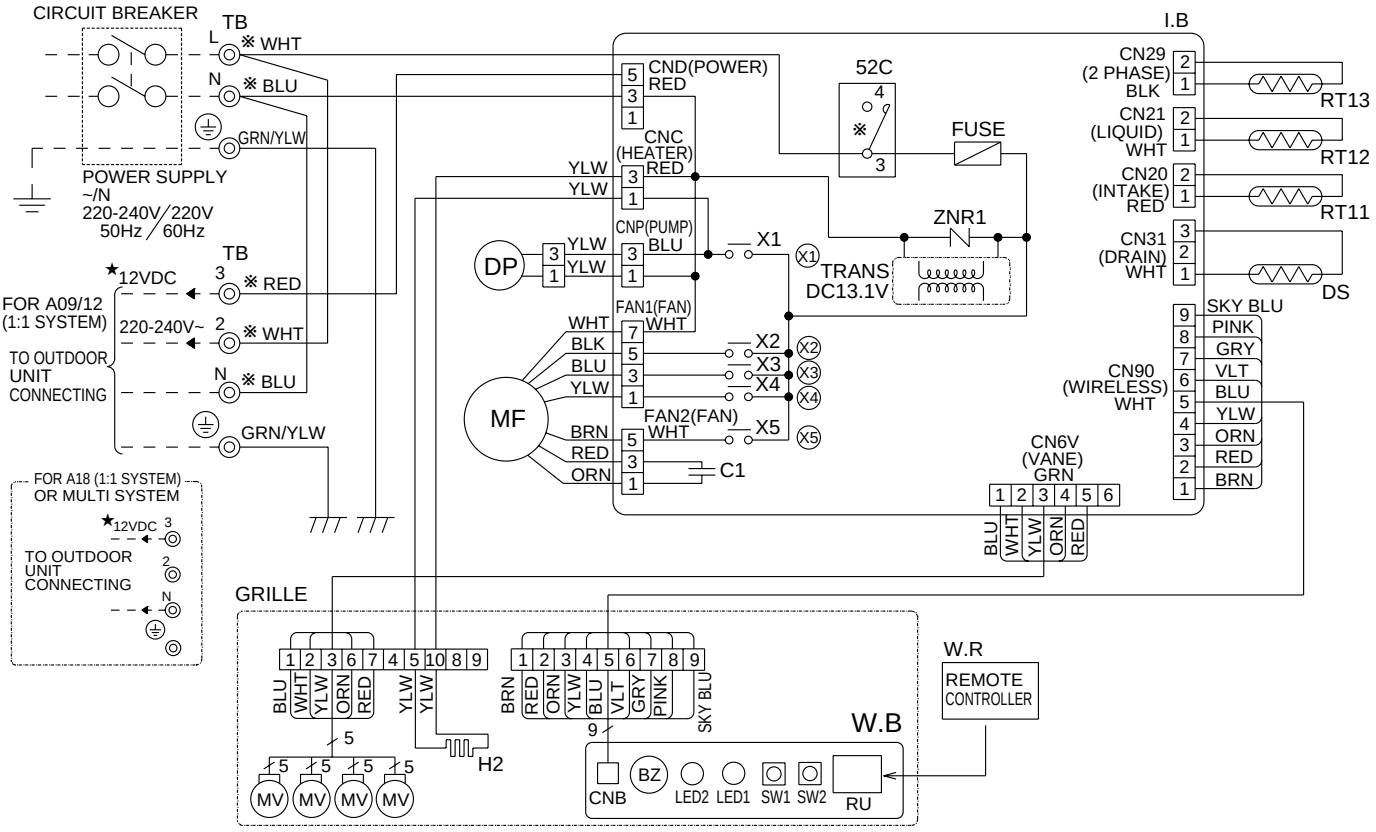
② Place the lower end of the controller into the holder.

Ⓐ Wireless remote controller (Accessory)
Ⓑ Wall
Ⓒ Remote controller holder (Accessory)
Ⓓ Fixing screw (Accessory)

- The signal can travel up to approximately 7 meters (in a straight line) within 45 degrees to both right and left of the center line of the receiver.
  In addition, the signal may not be received if there is interference of light of fluorescent lights or strong sunlight.

4 WIRING DIAGRAM

SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH

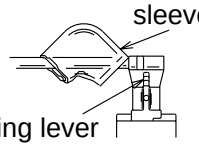


[LEGEND]

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
I.B	INDOOR CONTROLLER BOARD	W.B	WIRELESS REMOTE CONTROLLER BOARD	DP	DRAIN-UP MACHINE
				DS	DRAIN SENSOR
C1	FAN MOTOR CAPACITOR	BZ	BUZZER	H2	DEW PREVENTION HEATER
FUSE	FUSE(3.15A)	LED1	LED (RUN INDICATOR)	MF	FAN MOTOR
X1	RELAY(D.PUMP /D.HEATER)	LED2	LED (HOT ADJUST)	MV	VANE MOTOR
X2-X5	RELAY (FAN MOTOR)	SW1	SWITCH (HEATING ON/OFF)	RT11	ROOM TEMPERATURE THERMISTOR
ZNR1	VARISTOR	SW2	SWITCH (COOLING ON/OFF)	RT12	PIPE TEMPERATURE THERMISTOR / LIQUID
52C	COMPRESSOR CONTACTOR	RU	RECEVING UNIT	RT13	CONDENSER/EVAPORATOR TEMPERATURE THERMISTOR
				TB	TERMINAL BLOCK
				W.R	WIRELESS REMOTE CONTROLLER

How to remove the terminals shown at " ※ " mark.

" ※ " shows the terminals with a lock mechanism, so they cannot be removed when you pull the lead wire. Be sure to pull the wire by pushing the locking lever (projected part) of the terminal with a finger.



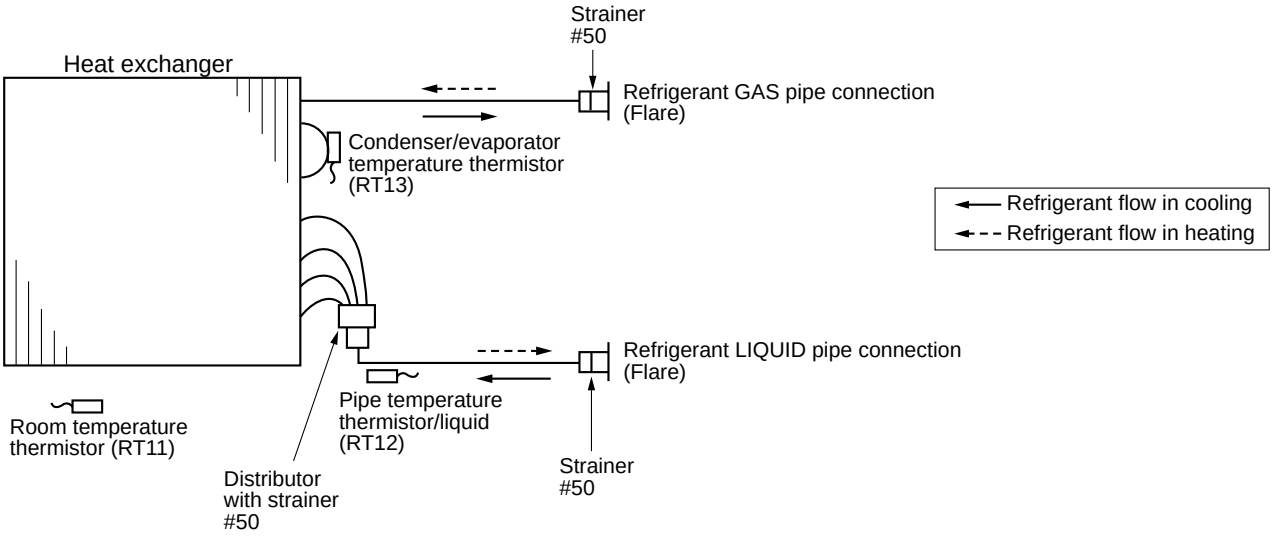
① Slide the sleeve.
② Pull the wire while pushing the locking lever.

NOTES: 1.About the outdoor side electric wiring refer to the outdoor unit electlic wiring diagram for servicing.
2.Use copper conductors only. (For field wiring)
3.Symbols below indicate.
◎ : Terminal block ▭▭ : Connector

★ The 12V DC is NOT always against the ground.
Terminal 3 has 12V DC against terminal N.
However, between 3 and 2, these terminals are NOT electrically insulated by the transformer or other device.

5 REFRIGERANT SYSTEM DIAGRAM

SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH



6 TROUBLESHOOTING

6-1. Cautions on troubleshooting

(1) Before troubleshooting, check the followings:

①Check the power supply voltage.

②Check the indoor/outdoor connecting wire for mis-wiring.

(2) Take care the followings during servicing.

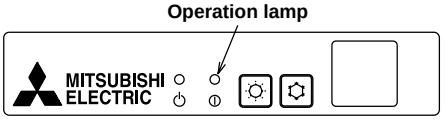
① Before servicing the air conditioner, be sure to first turn off the remote controller to stop the main unit, and then turn off the breaker.

② When removing the indoor controller board, hold the edge of the board with care NOT to apply stress on the components.

③ When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

6-2. Trouble display

Blinking frequency of operation lamp shows the details of trouble of the indoor and the outdoor units.



(1) Incase of being indicated irregularity on the self diagnoses.

Blinking frequency	Phenomenon	Cause	Countermeasure
1 blinking	Mis-wiring	Wiring between the indoor and outdoor is coming off.	Check the wiring out between the indoor and outdoor.
		Difference of wiring polarity between the indoor and outdoor.	
	Indoor-outdoor signal error	Trouble of the outdoor inverter P.C. board.	Check the outdoor inverter P.C. board. Refer to the TECHNICAL & SERVICE MANUAL of outdoor unit.
		Trouble of the Indoor controller board.	Exchange the Indoor controller board.
2 blinking	Pipe temperature thermistor / Liquid.	Mis-connecting of the pipe temperature thermistor / Liquid.	Reinsert the connector (CN21).
		Trouble of the pipe temperature thermistor / Liquid.	Check the resistance value of the thermistor.
		Trouble of the Indoor controller board.	Exchange the Indoor controller board.
	Room temperature thermistor	Mis-connecting of the room temperature thermistor.	Reinsert the connector (CN20).
		Trouble of the room temperature thermistor.	Check the resistance value of the thermistor.
		Trouble of the Indoor controller board.	Exchange the Indoor controller board.
	Condenser / evaporator temperature thermistor	Mis-connecting of the condenser / evaporator temperature thermistor.	Reinsert the connector (CN29).
		Trouble of the condenser / evaporator temperature thermistor.	Check the resistance value of the thermistor.
		Trouble of the Indoor controller board.	Exchange the Indoor controller board.
	Drain sensor	Mis-connecting of the indoor drain sensor	Reinsert the connector (CN31).
		Trouble of the indoor drain sensor	Check the resistance value of the thermistor.
		Trouble of the Indoor controller board.	Exchange the Indoor controller board.

To be continued on the next page.

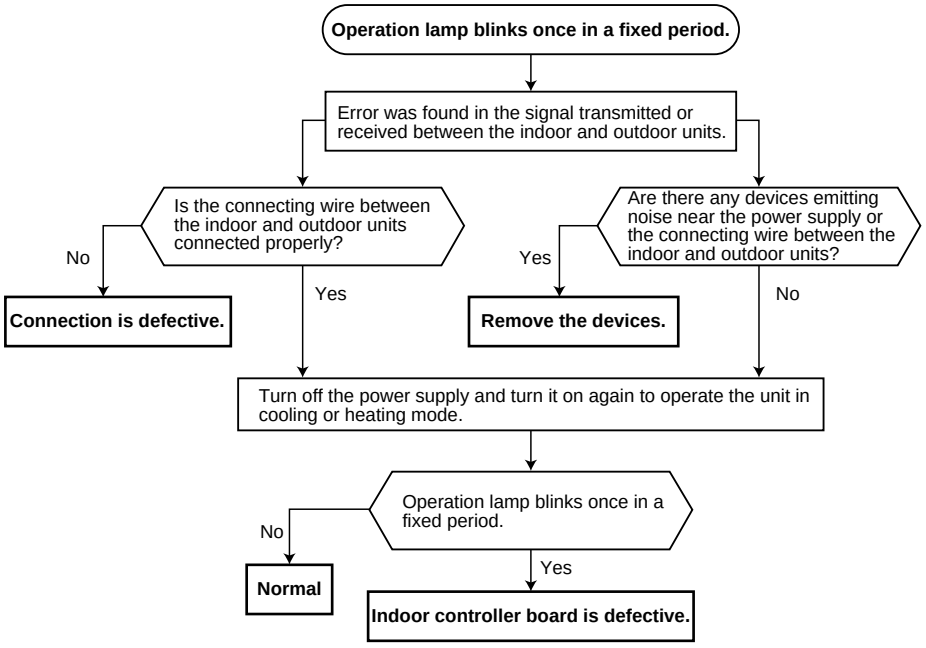
From the preceding page.

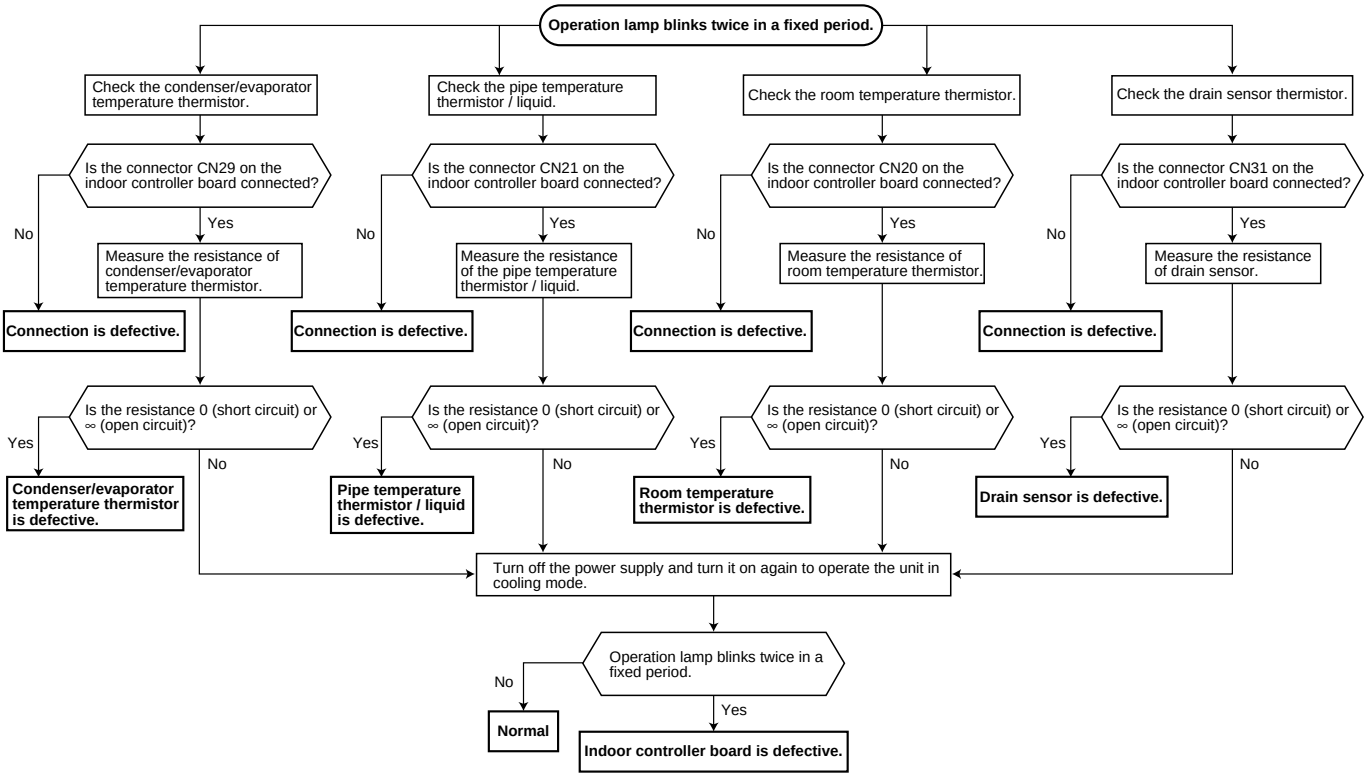
Blinking frequency	Phenomenon	Cause	Countermeasure
3 blinking	Freezing protection is working.	1) Short cycle of air cycle 2) Dirty air filter 3) Damaged fan 4) Abnormal refrigerant	1) Clear obstructions from air cycle. 2) Clean the air filter 3) Check the fan 4) Check the refrigerant temperature.
5,7,10 blinking	Malfunction of outdoor unit	Malfunction of outdoor unit	Refer to the TECHNICAL & SERVICE MANUAL of outdoor unit.
6 blinking	Outdoor thermistor	Mis-connecting of the outdoor thermistor.	Reinsert the connector.
		Trouble of the outdoor thermistor.	Check the resistance value of the thermistor.
		Trouble of the outdoor inverter P.C. board.	Exchange the outdoor inverter P.C. board.
9 blinking	Malfunction of drain pump	1) Malfunction of drain pump 2) Damaged drain sensor	1) Check the drain pump. 2) Check the drain sensor. (Check the drop of water is on.) If the resistance is normal, replace the indoor controller board.

(2) Other case

Phenomenon	Cause	Countermeasure
Not working of remote controller switch ON/OFF	A connector attaching the panel to the body is not connected.	Connect it.
	Short circuit the protecting parts in the Indoor controller board.	Check the varistor (ZNR1) and fuse (FUSE) out in the Indoor controller board.
	Trouble of the Indoor controller board.	Check the Indoor controller board out.
	Trouble of the remote controller.	Exchange the remote controller.
Working the Indoor units and not working the outdoor units.	Wiring between the indoor and outdoor is coming off.	Check the wiring out between the indoor and outdoor.
	Difference of wiring polarity between the indoor and outdoor.	
	Trouble of the outdoor inverter P.C. board.	Check the outdoor inverter P.C. board.
	Trouble of the contactor (52C).	Exchange the contactor.
	Malfunction of outdoor unit.	Refer to the TECHNICAL & SERVICE MANUAL of outdoor unit.
Not rotating the fan in the indoor unit.	Fan motor connector is coming off.	Check the connector out.
	Trouble of the Indoor controller board.	Check the fan motor output of the Indoor controller board.
	Trouble of the fan motor.	Check the resistance value between the each tap of fan motor.
Horizontal vane doesn't work.	A connector attaching the panel to the body is not connected.	Connect it.
	Fixing of horizontal vane.	Check if the connector for vane motor is connected.

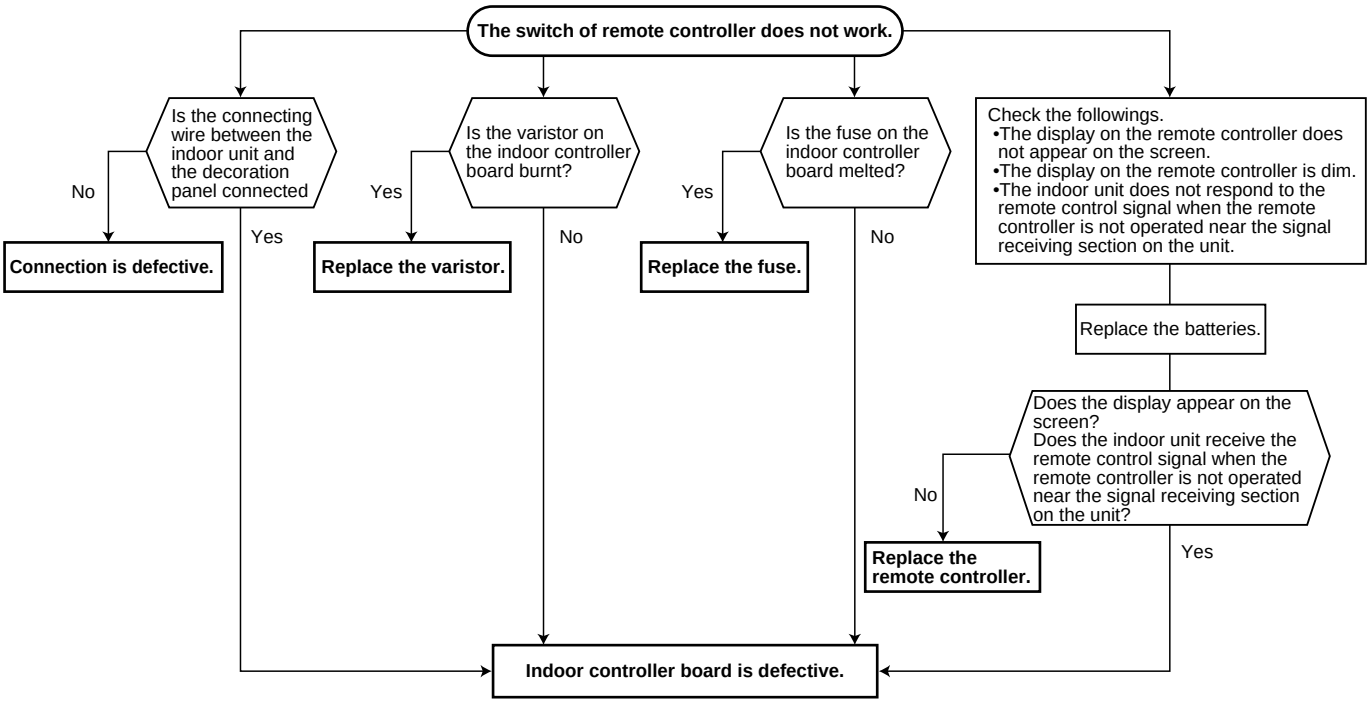
Check of indoor controller board and indoor fan motor

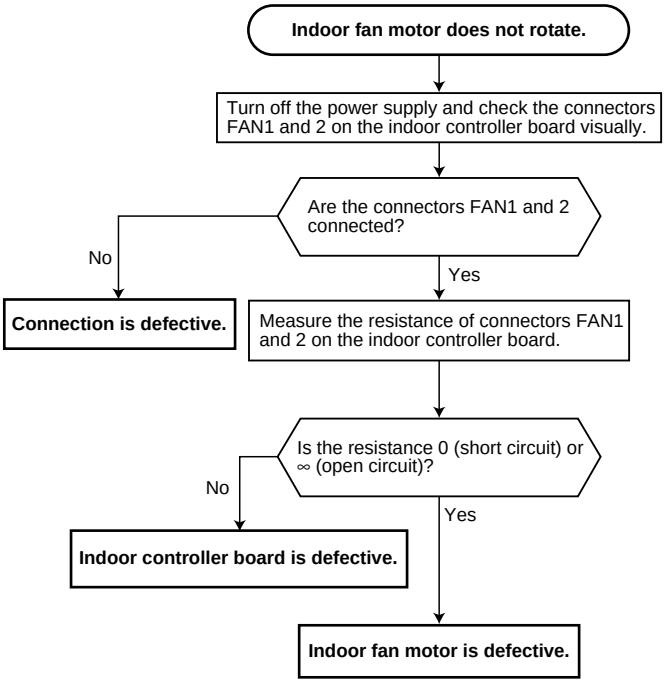

Operation lamp blinks once in a fixed period.
Error was found in the signal transmitted or received between the indoor and outdoor units.
Is the connecting wire between the indoor and outdoor units connected properly?
No
Connection is defective.
Yes
Are there any devices emitting noise near the power supply or the connecting wire between the indoor and outdoor units?
Yes
Remove the devices.
No
Turn off the power supply and turn it on again to operate the unit in cooling or heating mode.
Operation lamp blinks once in a fixed period.
No
Normal
Yes
Indoor controller board is defective.


Operation lamp blinks twice in a fixed period.
Check the condenser/evaporator temperature thermistor.
Is the connector CN29 on the indoor controller board connected?
No
Connection is defective.
Yes
Measure the resistance of condenser/evaporator temperature thermistor.
Is the resistance 0 (short circuit) or ∞ (open circuit)?
Yes
Condenser/evaporator temperature thermistor is defective.
No
Check the pipe temperature thermistor / liquid.
Is the connector CN21 on the indoor controller board connected?
No
Connection is defective.
Yes
Measure the resistance of the pipe temperature thermistor / liquid.
Is the resistance 0 (short circuit) or ∞ (open circuit)?
Yes
Pipe temperature thermistor / liquid is defective.
No
Check the room temperature thermistor.
Is the connector CN20 on the indoor controller board connected?
No
Connection is defective.
Yes
Measure the resistance of room temperature thermistor.
Is the resistance 0 (short circuit) or ∞ (open circuit)?
Yes
Room temperature thermistor is defective.
No
Check the drain sensor thermistor.
Is the connector CN31 on the indoor controller board connected?
No
Connection is defective.
Yes
Measure the resistance of drain sensor.
Is the resistance 0 (short circuit) or ∞ (open circuit)?
Yes
Drain sensor is defective.
No
Turn off the power supply and turn it on again to operate the unit in cooling mode.
Operation lamp blinks twice in a fixed period.
No
Normal
Yes
Indoor controller board is defective.

To be continued on the next page.

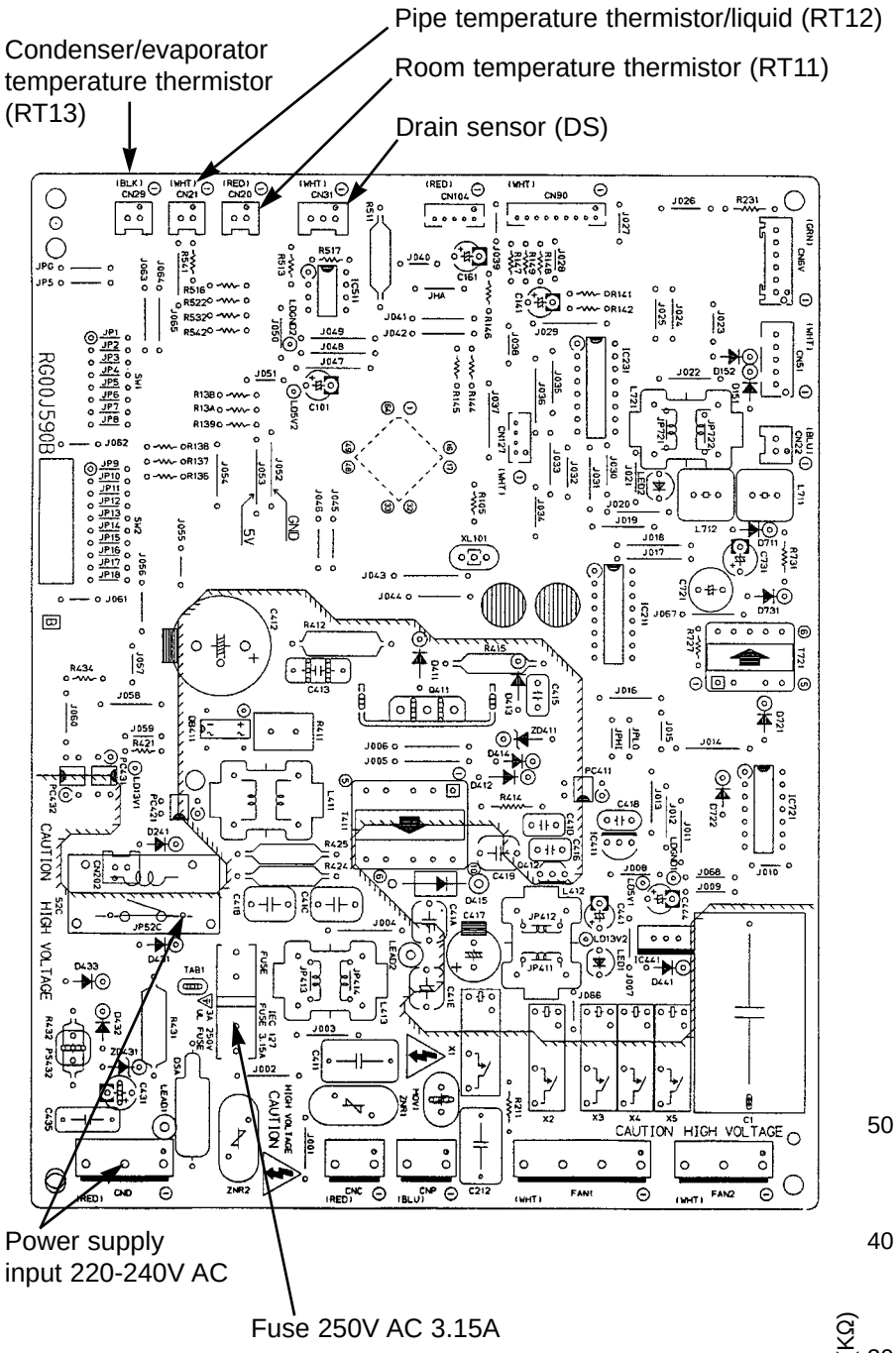
From the preceding page.


The switch of remote controller does not work.
Is the connecting wire between the indoor unit and the decoration panel connected
No
Connection is defective.
Yes
Is the varistor on the indoor controller board burnt?
Yes
Replace the varistor.
No
Is the fuse on the indoor controller board melted?
Yes
Replace the fuse.
No
Check the followings.
•The display on the remote controller does not appear on the screen.
•The display on the remote controller is dim.
•The indoor unit does not respond to the remote control signal when the remote controller is not operated near the signal receiving section on the unit.
Replace the batteries.
Does the display appear on the screen?
Does the indoor unit receive the remote control signal when the remote controller is not operated near the signal receiving section on the unit?
No
Replace the remote controller.
Yes
Indoor controller board is defective.


Indoor fan motor does not rotate.
Turn off the power supply and check the connectors FAN1 and 2 on the indoor controller board visually.
Are the connectors FAN1 and 2 connected?
No
Connection is defective.
Yes
Measure the resistance of connectors FAN1 and 2 on the indoor controller board.
Is the resistance 0 (short circuit) or ∞ (open circuit)?
No
Indoor controller board is defective.
Yes
Indoor fan motor is defective.

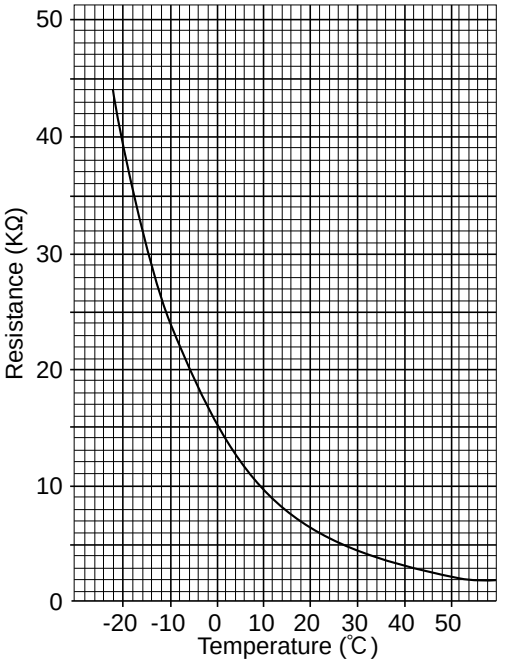
6-3. Test point of indoor controller board

Indoor controller board

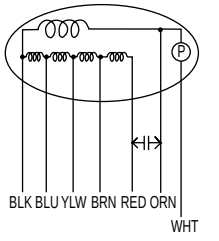


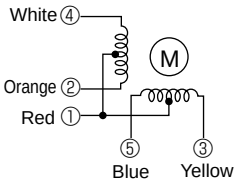
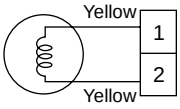
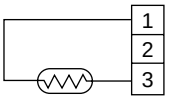
- Room temperature thermistor (RT11)
- Pipe temperature thermistor/liquid (RT12)
- Condenser/evaporator temperature thermistor (RT13)

< Thermistor for lower temperature >



6-4. Trouble criterion of main parts
SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH

<table>
<tr><th>Part name</th><th>Check method and criterion</th></tr>
<tr><td>Room temperature thermistor (RT11)
Pipe temperature thermistor/liquid (RT12)
Condenser/evaporator temperature thermistor (RT13)</td><td>Measure the resistance with a tester.
(Part temperature 10°C ~ 30°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>4.3kΩ~9.6kΩ</td><td>Opened or short-circuited</td></tr>
</table></td></tr>
<tr><td>Indoor fan motor (MF)
 

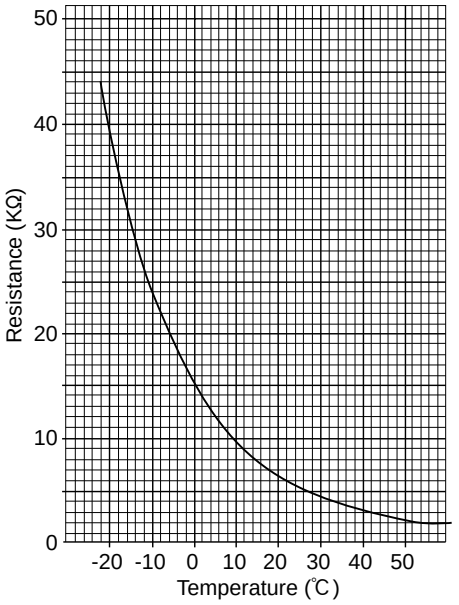
Ⓟ : Thermal fuse 145 ± 2˚C</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature 10°C ~ 30°C)
<table>
<tr><th rowspan="2"></th><th colspan="3">Normal</th><th rowspan="2">Abnormal</th></tr>
<tr><th>A09AR</th><th>A12AR</th><th>A18AR</th></tr>
<tr><td>WHT-BLK</td><td>386~428</td><td>309~399</td><td>305~329</td><td rowspan="5">Opened or short-circuited</td></tr>
<tr><td>BLK-BLU</td><td>52~58</td><td>107~115</td><td>85~92</td></tr>
<tr><td>BLU-YLW</td><td>29~33</td><td>47~51</td><td>50~54</td></tr>
<tr><td>YLW-BRN</td><td>28~32</td><td>44~48</td><td>43~47</td></tr>
<tr><td>BRN-RED</td><td>157~174</td><td>299~323</td><td>289~313</td></tr>
</table></td></tr>
<tr><td>Vane motor (MV)
 
</td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃~30℃)
<table>
<tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr>
<tr><td>Red — Yellow</td><td rowspan="4">300Ω</td><td rowspan="4">Open or short</td></tr>
<tr><td>Red — Blue</td></tr>
<tr><td>Red — Orange</td></tr>
<tr><td>Red — White</td></tr>
</table></td></tr>
<tr><td>Drain pump (DP)
 
</td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃~30℃)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>290Ω</td><td>Open or short</td></tr>
</table></td></tr>
<tr><td>Drain sensor (DS)
 
</td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 10℃~30℃)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>0.6kΩ~6.0kΩ</td><td>Open or short</td></tr>
</table>(Refer to the thermistor)</td></tr>
</table>

<Thermistor Characteristic graph>

Thermistor for lower temperature

- •Room temperature thermistor (RT11)
- •Pipe temperature thermistor/liquid (RT12)
- •Condenser/evaporator temperature thermistor (RT13)

< Thermistor for lower temperature >



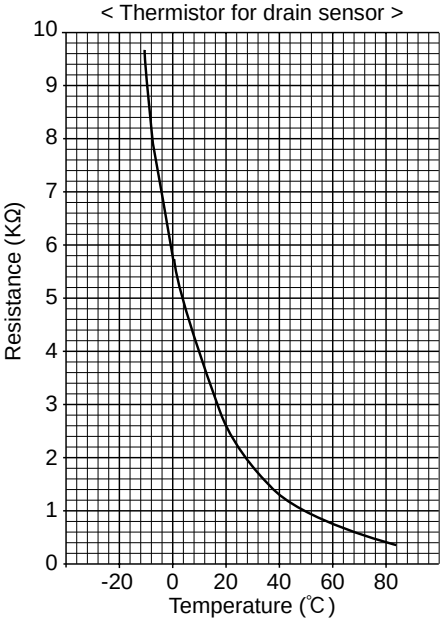
Thermistor R_0=15kΩ ± 3%
Fixed number of B=3480K ± 2%

$$Rt=15\exp\{3480(\frac{1}{273+t}-\frac{1}{273})\}$$

0℃	15kΩ
10℃	9.6kΩ
20℃	6.3kΩ
25℃	5.2kΩ
30℃	4.3kΩ
40℃	3.0kΩ

Thermistor for drain sensor

< Thermistor for drain sensor >



Thermistor R_0=6.0kΩ ±5%
Fixed number of B=3390K ± 2%

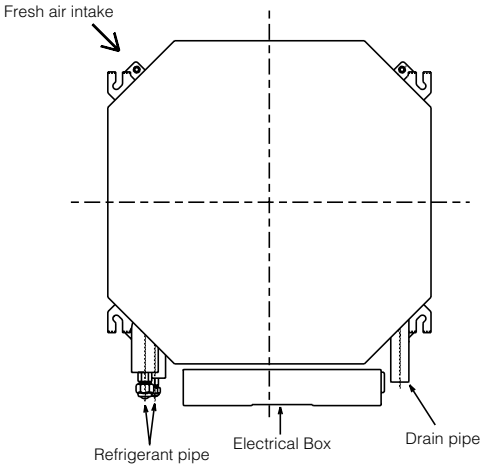
$$Rt=6\exp\{3390(\frac{1}{273+t}-\frac{1}{273})\}$$

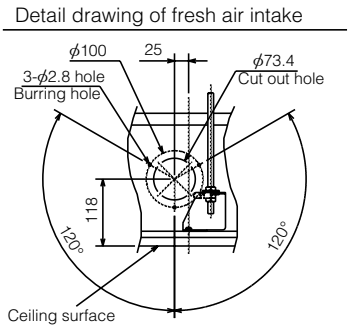
0℃	6.0kΩ
10℃	3.9kΩ
20℃	2.6kΩ
25℃	2.2kΩ
30℃	1.8kΩ
40℃	1.3kΩ

7 4-WAY AIR FLOW SYSTEM

7-1. Fresh air intake (Location for installation)

At the time of installation, use the duct holes (cut out) located at the positions shown in following diagram, as and when required.

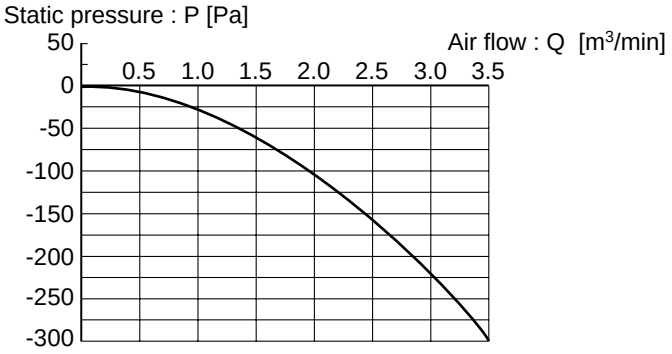




7-2. Fresh air intake amount & static pressure characteristics

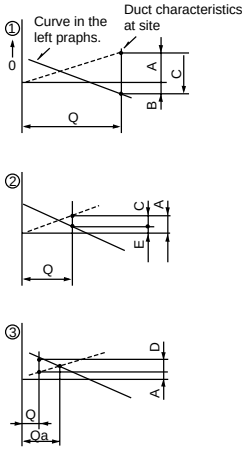
SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH

Taking air into the unit



NOTE: Fresh air intake amount should be 20% or less of whole air amount to prevent dew dripping.

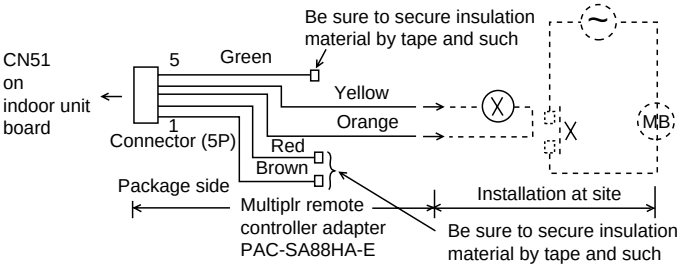
How to read curves

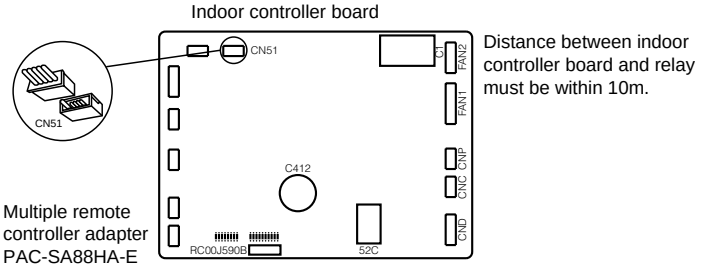


Q…Planned amount of fresh air intake <m³/min>
A…Static pressure loss of fresh air intake duct system with air flow amount Q <Pa>
B…Forced static pressure at air conditioner inlet with air flow amount Q <Pa>
C…Static pressure of booster fan with air flow amount Q <Pa>
D…Static pressure loss increase amount of fresh air intake dust system for air flow amount Q <Pa>
E…Static pressure of indoor unit with air flow amount Q <Pa>
Qa…Estimated amount of fresh air intake with out D <m³/min>

7-3. Interlocking operation method with duct fan (Booster fan)

●Whenever the indoor unit is operating, the duct fun operates.
(1)Connect the optional multiple remote controller adapter(PAC-SA88HA-E)to the connector CN51 on the indoor controller board.
(2)Drive the relay after connecting the 12V DC relay between the Yellow and Orange connector lines.
Use a relay under 1W.
MB: Electromagnetic switch power relay for duct fan.
X: Auxiliary relay (12V DC LY-1F)



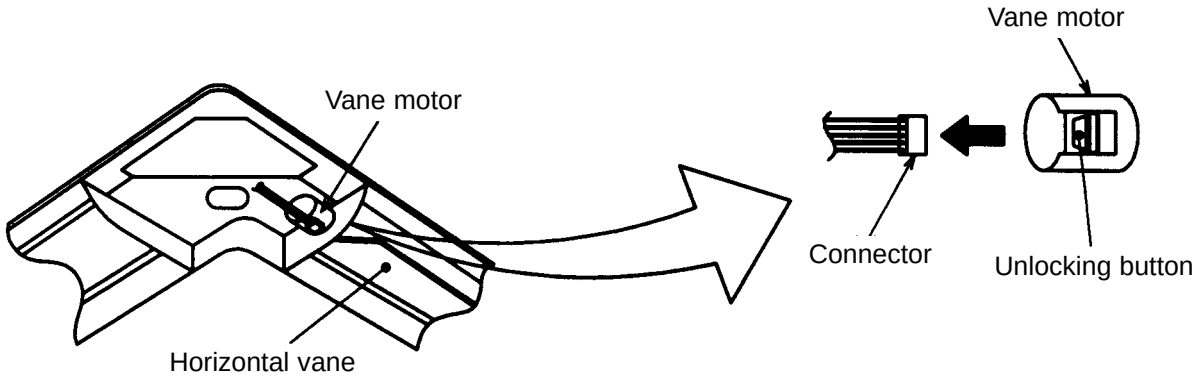


7-4. Fixing of horizontal vane

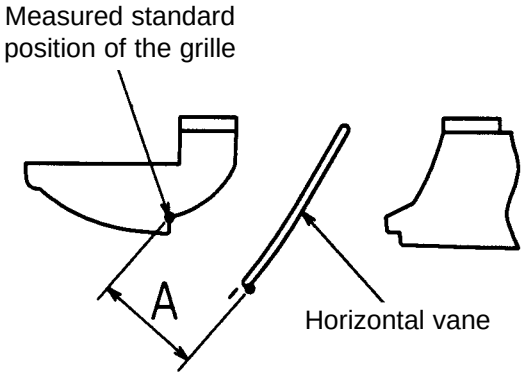
Horizontal vane of each air outlet can be fixed according to the environment, which is installed.

Setting procedure

1) Turn off a main power supply (Turn off a breaker).
2) Disconnect the vane motor connector of the direction of the arrow with pressing the unlocking button as shown in figure below.
   Electricity insulate the disconnected connector with the vinyl tape.



3) Set a vertical vane of the air outlet, which tries to fixed by the hand slowly within the range in the table below.



<Set range>

Standard of horizontal position	Level 30° (Min.)	Downward 45°	Downward 55°	Downward 70° (Max.)
Dimension A (mm)	21	25	28	30

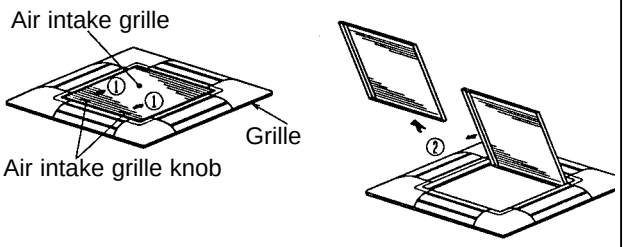
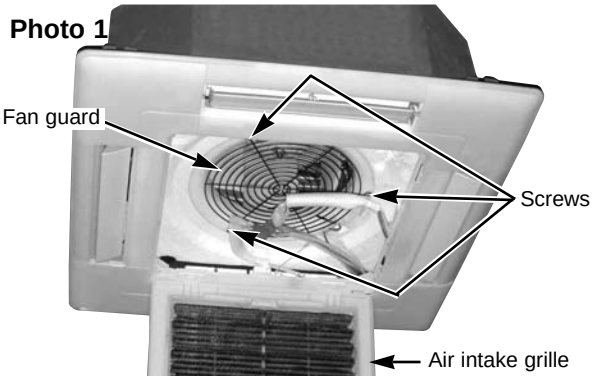
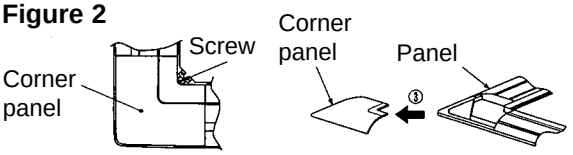
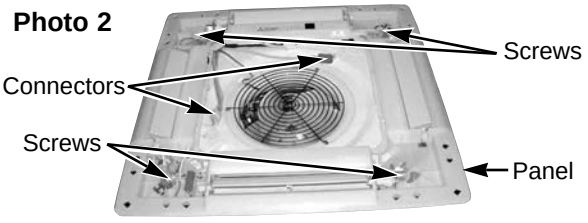
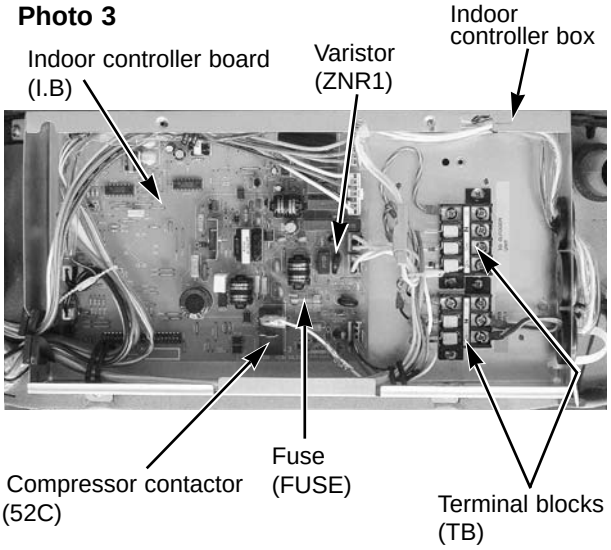
※ Dimension between 21 mm and 30 mm can be arbitrarily set.

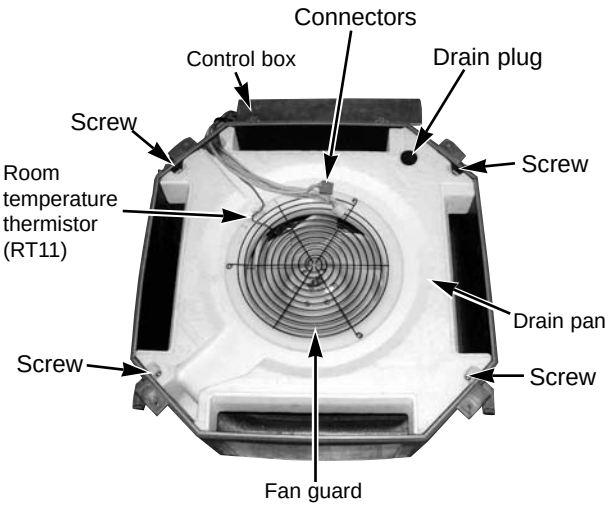
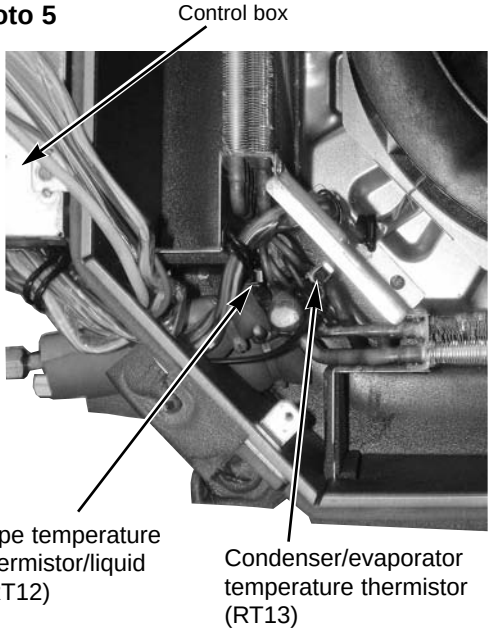
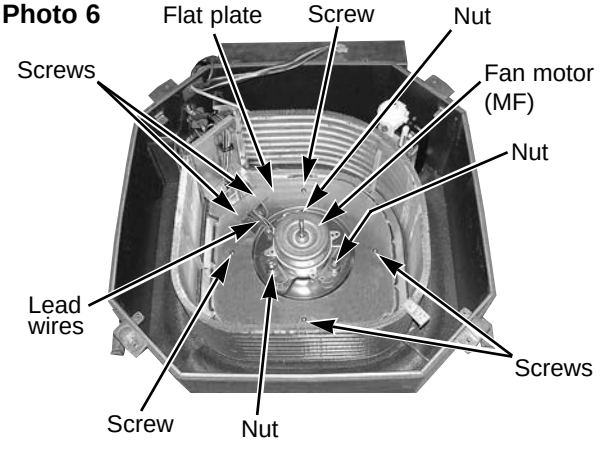
Caution	Do not set the dimension out of the range.
⚠	Erroneous setting could cause dew drips, smudge on ceiling or malfunction of unit.

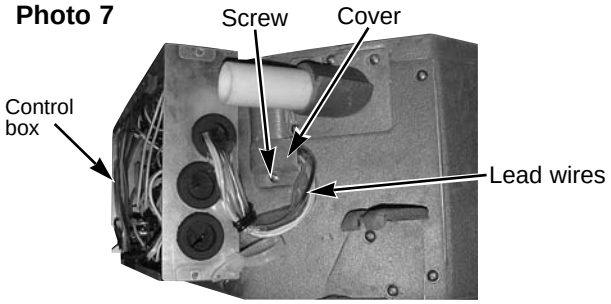
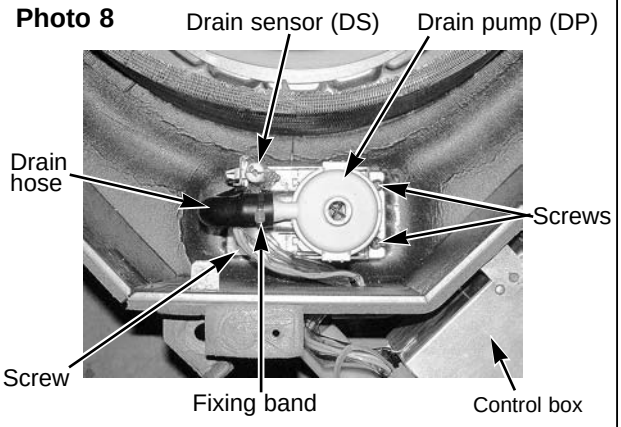
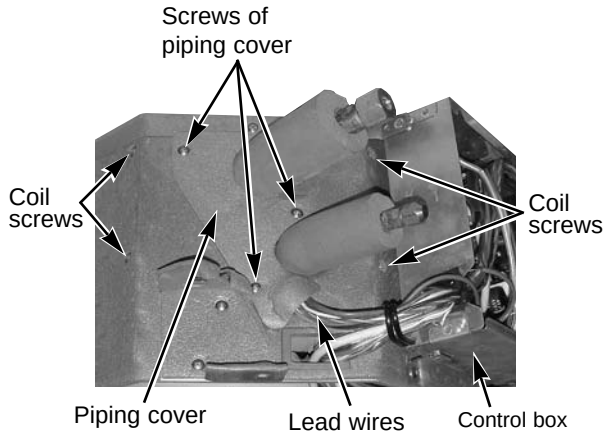
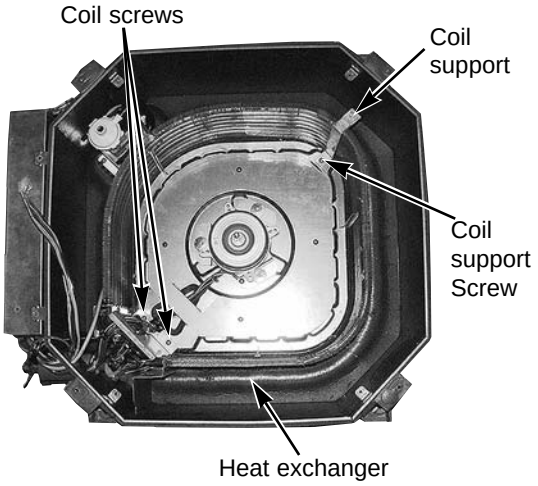
8 DISASSEMBLY PROCEDURE

SLZ-A09AR.TH SLZ-A12AR.TH SLZ-A18AR.TH

Be careful on removing heavy parts.

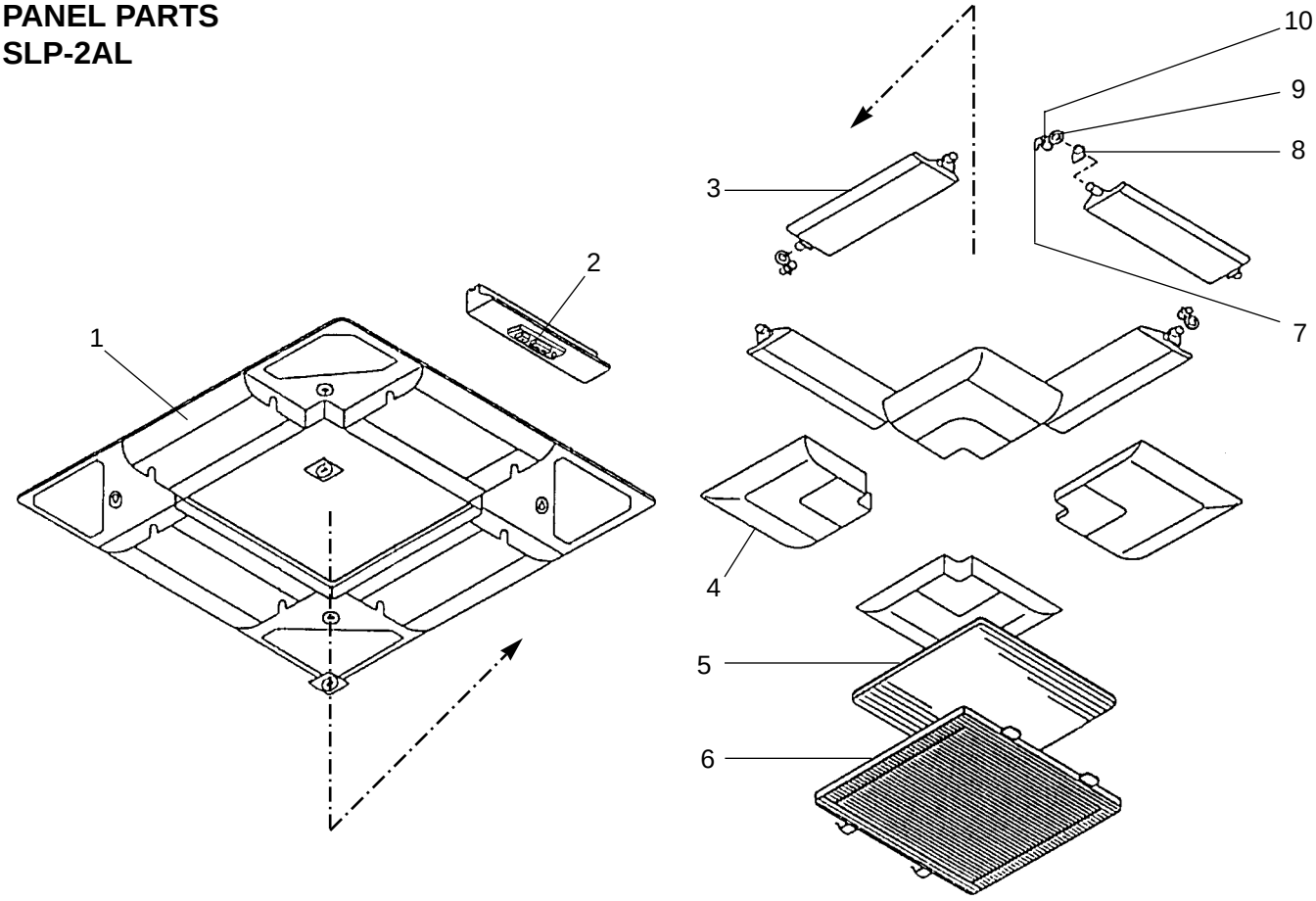
OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
1. Removing the air intake grille (1) Slide the knob of air intake grille to the direction of the arrow ① to open the air intake grille. (2) Remove the hook for secure belt on air inlet grille from the panel. (3) Slide the shaft in the hinge to the direction of the arrow ② and remove the air intake grille.	**Figure 1** 
2. Removing the fan guard (1) Open the air intake grille. (2) Remove the 3 screws of fan guard.	**Photo 1** 
3. Removing the panel (1) Remove the air intake grille. (Refer to **1**) **Corner panel (See figure 2)** (1) Remove the screw of the corner. (2) Slide the corner panel to the direction of the arrow ③, and remove the corner panel. **Panel (See photo 2)** (1) Disconnect the connector that connects with the unit. (2) Remove the 2 screws from the panel and loose another 2 screws, which fixed to the oval hole, have different diameter. (3) Rotate the panel a little to remove the screws.(Slide the panel so that the screw comes to a large diameter of the oval hole, which has two different diameters.)	**Figure 2**  **Photo 2** 
4. Removing the electrical parts (1) Remove the 2 screws and the control box cover. <Electrical parts in the control box> • Indoor controller board (I.B) • Compressor contactor (52C) • Fuse (FUSE) • Varistor (ZNR1) • Terminal block (TB)	**Photo 3** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
5. Remove the room temperature thermistor (RT11) (1) Remove the panel. (Refer to **3**) (2) Pull out the room temperature thermistor from the drain pan. (3) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (4) Remove the connector (CN20) from the indoor controller board, and disconnect the room temperature thermistor.	**Photo 4** 
6. Remove the drain pan (1) Remove the panel. (Refer to **3**) (2) Remove the room temperature thermistor and the 2 lead wires held with fastener; wireless controller board relay connector (9P red) and panel relay connector (10P white). (3) Remove the 4 screws fixed to the drain pan, and remove the drain pan. (4) Remove the fan guard. (Refer to **2**)	
7. Removing the pipe temperature thermistor/liquid (RT12) and condenser/evaporator temperature thermistor (RT13) (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Disconnect the indoor coil thermistor from the holder. (4) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See photo 9) (5) Remove the 2 screws fixed to the control box cover, and remove the control box cover. **Pipe temperature thermistor/liquid (RT12)** (6) Remove the connector (CN21) from the indoor controller board, and disconnect the pipe temperature thermistor/liquid. **Condenser/evaporator temperature thermistor (RT13)** (6) Remove the connector (CN29) from the indoor controller board, and disconnect the condenser/evaporator temperature thermistor.	**Photo 5** 
8. Remove the fan motor (MF) (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Remove the nut and the washer from the turbo fan, and remove the turbo fan. (4) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (5) Disconnect the connectors of the (fan 1) and the (fan 2) from the indoor controller board. (6) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See photo 9) (7) Remove the 6 screws fixed to the flat plate, and remove the flat plate. (8) Disconnect the lead wires to the direction of the fan motor, and remove the 3 nuts of the fan motor.	**Photo 6** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
9. Removing the drain pump (DP) and drain sensor (DS) (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (4) Remove the connectors of the (CNP) and the (CN31) from the indoor controller board. (5) Remove the 1 screw fixed to the cover, and remove the cover. (6) Disconnect the lead wires to the direction of the drain pump.(See photo 7) (7) Remove the 3 screws of the drain pump. (8) Cut the drain hose band, pull out the drain hose from the drain pump. (9) Pull out the drain pump. (10) Remove the drain sensor and the holder.	**Photo 7**  **Photo 8** 
10. Removing the heat exchanger (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Remove the nut and the washer from the turbo fan, and remove the turbo fan. (4) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (5) Disconnect the connectors of the (fan 1) and the (fan 2) from the indoor controller board. (6) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See photo 9) (7) Remove the pipe temperature thermistor/liquid and condenser/evaporator temperature thermistor. (Refer to **7**) (8) Disconnect the lead wires to the direction of the fan motor. (9) Remove the 1 coil support screw, the 2 inside coil screws (See photo 10), and the 4 outside coil screws (See photo 9) from the heat exchanger, and remove the heat exchanger.	**Photo 9**  **Photo 10** 

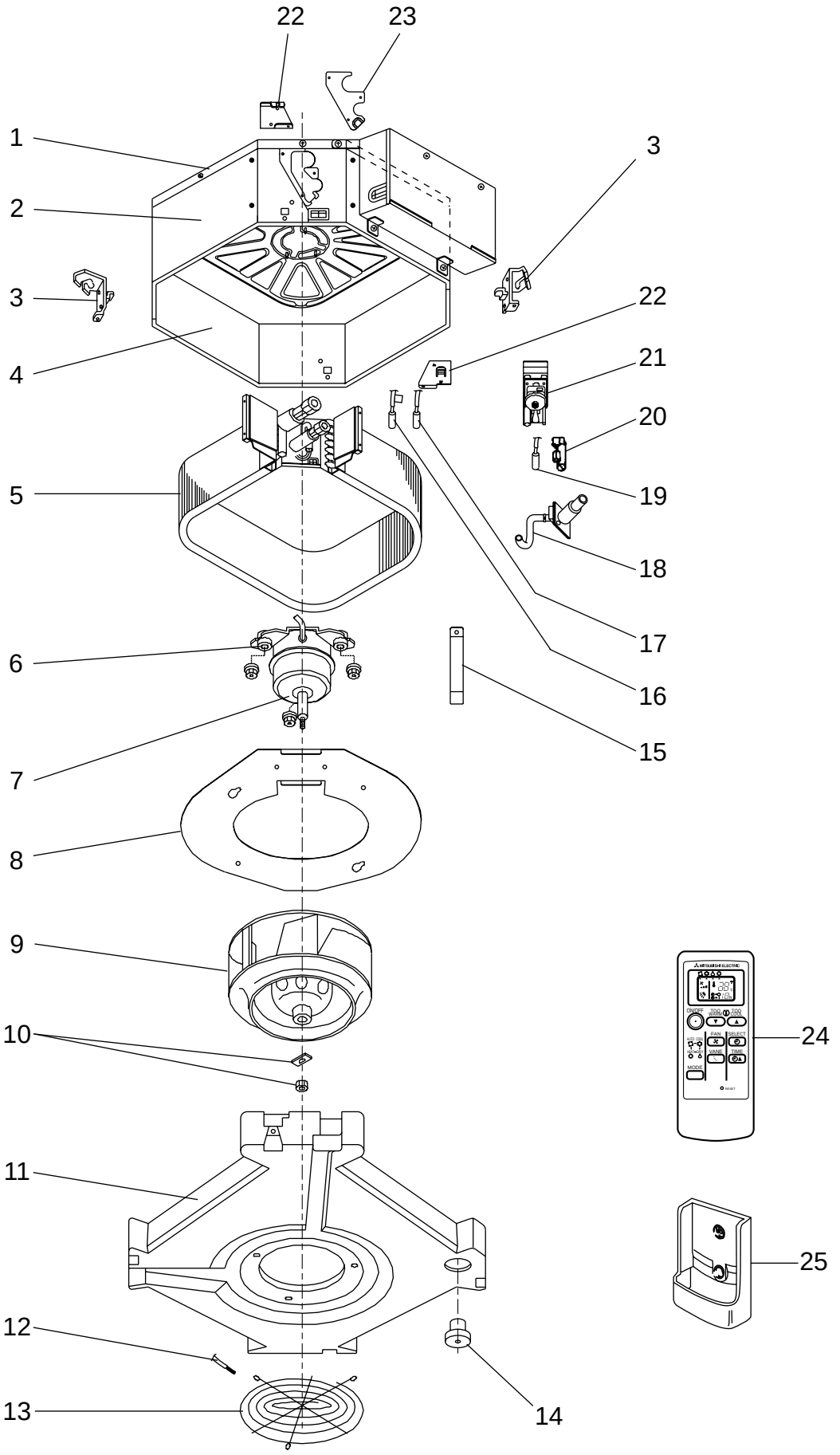
9 PARTS LIST

PANEL PARTS
SLP-2AL



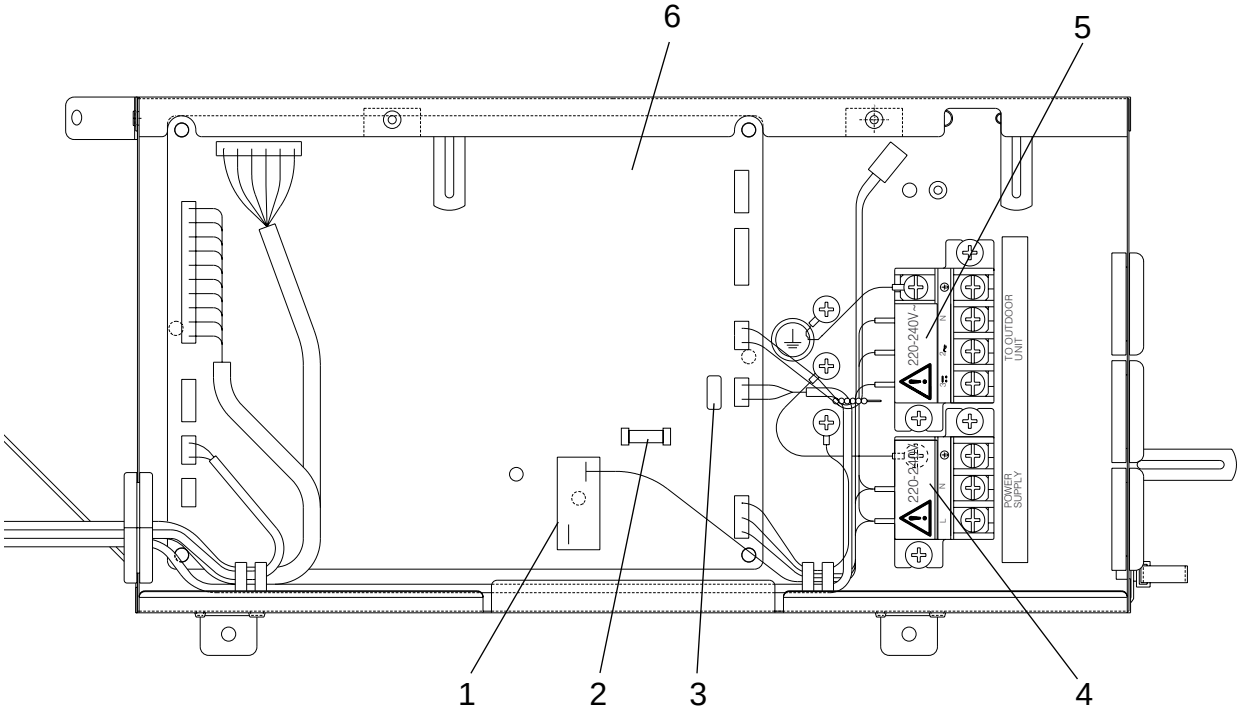
No.	Parts No.	Parts name	Specification	Q'ty/set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom-mended Q'ty	Price	
				SLP-2AL				Unit	Amount
1	E07 103 003	AIR OUTLET GRILLE		1					
2	E07 103 317	WIRELSS REMOTE CONTROL BOARD		1		W.B			
3	E07 103 037	AUTO VANE		4					
4	E07 103 975	CORNER PANEL		4					
5	E07 103 100	AIR FILTER		1					
6	E07 103 010	INTAKE GRILLE		1					
7	E07 103 303	VANE MOTOR		4		MV			
8	E07 103 044	VANE BUSH		8					
9	E07 103 031	GEAR (V)		4					
10	E07 103 032	GEAR (M)		4					

FUNCTIONAL PARTS
SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH



No.	Parts No.	Parts name	Specification	Q'ty/set SLZ- A09	A12	A18 AR.TH	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom-mended Q'ty	Price Unit	Amount
1	E07 104 290	BASE		1	1	1					
2	E07 104 124	DRUM-1		1	1	1					
3	E07 104 808	LEG-1		2	2	2					
4	E07 105 124	DRUM-2		1	1	1					
5	E07 140 620	INDOOR HEAT EXCHANGER		1							
	E07 141 620	INDOOR HEAT EXCHANGER			1						
	E07 142 620	INDOOR HEAT EXCHANGER				1					
6	E07 104 105	MOTOR MOUNT		3	3	3	3PCS/SET				
7	E07 140 300	INDOOR FAN MOTOR	PK6V15-LA	1				MF			
	E07 105 300	INDOOR FAN MOTOR	PK6V20-LE		1			MF			
	E07 106 300	INDOOR FAN MOTOR	PK6V20-LF			1		MF			
8	E07 104 816	FLAT PLATE		1	1	1					
9	E07 104 502	TURBO FAN		1	1	1					
10	E07 104 097	SPL WASHER		1	1	1					
11	E07 104 700	DRAIN PAN		1	1	1					
12	E07 104 308	ROOM TEMPERATURE THERMISTOR		1	1	1		RT11			
13	E07 104 520	FAN GUARD		1	1	1					
14	E07 104 524	DRAIN PLUG		1	1	1					
15	E07 104 648	COIL SUPPORT		1	1	1					
16	E07 140 309	CONDENSER / EVAPORATOR TEMPERATURE THERMISTOR		1	1	1		RT13			
17	E07 104 307	PIPE TEMPERATURE THERMISTOR / LIQUID		1	1	1		RT12			
18	E07 104 702	DRAIN HOSE		1	1	1					
19	E07 104 266	DRAIN SENSOR		1	1	1		DS			
20	E07 104 241	SENSOR HOLDER		1	1	1					
21	E07 104 355	DRAIN PUMP		1	1	1		DP			
22	E07 104 809	LEG-2		2	2	2					
23	E07 104 006	COVER (DRUM)		1	1	1					
24	E07 140 426	WIRELESS REMOTE CONTROLLER		1	1	1		W.R			
25	E02 527 083	REMOTE CONTROLLER HOLDER		1	1	1					

ELECTRICAL PARTS
SLZ-A09AR.TH
SLZ-A12AR.TH
SLZ-A18AR.TH



No.	Parts No.	Parts name	Specification	Q'ty/set SLZ- AR.TH A09	A12	A18	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Amount
1	E07 140 340	COMPRESSOR CONTACTOR		1	1	1		52C			
2	E02 127 382	FUSE	250V 3.15A	1	1	1		FUSE			
3	E02 661 385	VARISTOR		1	1	1		ZNR1			
4	E02 367 377	TERMINAL BLOCK		1	1	1	3P	TB			
5	E02 257 375	TERMINAL BLOCK		1	1	1	4P	TB			
6	E07 140 447	INDOOR CONTROLLER BOARD		1				I.B			
	E07 141 447	INDOOR CONTROLLER BOARD			1			I.B			
	E07 142 447	INDOOR CONTROLLER BOARD				1		I.B			

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : MITSUBISHI DENKI BLDG., 2-2-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

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